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STATISTICAL BULLETIN
Metropolitan Life Insurance Co.

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BUILDING THE HUMAN MACHINE

The Cost of Clothing and Shelter

In our February issue we indicated that the cost of food for the developing human being, from birth to age eighteen, is approximately $2,500. We now come to the next item in our account, namely, those expenditures which serve to protect the body from the inequalities and inclemencies of the weather and climate: clothing and shelter. The clothing expenditure is an individual concern; shelter on the other hand, comprising such elements as housing, fuel, light, household furnishings and upkeep, are general, joint family expenses, which have to be considered in the aggregate. Their distribution among the several members of the family can be inferred only from the study of the whole family budget.

Our estimate of clothing expenditures we shall base on a study "Cost of Living in the United States" published by the Bureau of Labor (Bulletin No. 357, 1924), which shows an expenditure of about $350 for a family of husband and wife with three children, ages 3, 8 and 12 respectively, in the income class of $2,100-$2,500 per annum. The Bureau found that, in this income group, clothing for the boy under four cost $27.25 a year, or a total of $109 before his fourth birthday. In the years between four and eight, it cost $39.97 annually; from the age of eight to that of twelve, $49.58 a year was expended; from twelve to fifteen the annual cost was $58.65, and from that age on, his annual expenditure was practically the same as that of an adult male, $96.24. The comparable figures for the girl were $31.19, $42.15, $49.95, $61.03, and $115.37, respectively. To sum up, the boy's clothing would have cost $932 and the girl's $1,022 up to the age of eighteen. But in our December, 1925, article, "The Cost of Being Born," we allowed $25 for the baby's layette, $20 of which covered the cost of his clothing during the first months of life; consequently we must deduct this

amount from the above totals, which gives a clothing expenditure additional to first costs of $912 for the boy and $1,002 for the girl.

Our next consideration is the amount which is spent annually for shelter. This will depend on the locality in which the family is living. We shall base our estimate on conditions as they now prevail in our larger cities, where rents today are notoriously high. Many people are today forced to choose between two evils: either to live in homes that must appear inadequate from the point of view of the dweller in the small town or farm; or else to spend a disproportionate part of their income on rent. Which of these two evils they select depends on their social habits. The man with a white collar job will be inclined to choose the latter, the artisan and skilled laborer will perhaps more often adopt the former course. The second of these social classes is the larger, and must therefore, in our estimate, be given the greater weight. Hence we may perhaps assume that, out of a total expenditure of $2,500 per annum, a monthly rental of $40 to $50 is spent for a four-room apartment, or, say on an average, $45, making a yearly rental of $540. This allows one bedroom for the parents, one for the children, and a combined living and dining room, in which a folding bed may also find a place. There may or may not be a bathroom.

It is difficult to find any really satisfactory basis on which to figure the apportionment of this and similar items among the several members of the family. For want of a better method, we may distribute this cost in such proportion, that, in the course of eighteen years, each child is charged with about one-sixth of the family expense, for shelter. This item, in eighteen years, rolls up to a total rent of $9,720, so that the share for one child, over this period, is close to $1,620.

The figure adopted in our estimate for rent does not include the cost of fuel and light. Allowing four tons of coal a year it seems hardly possible to meet the expenditures for fuel and light for much less than $100 per annum. We will adopt this round figure, and again charge one-sixth of this against each child, so that in eighteen years its share would total up to $300.

As to expenditures for furniture, household equipment and upkeep, we consult Table F of the Bureau of Labor study "The Cost of Living in the United States," which gives a detailed list of such expenditures in various income groups. The total amount spent annually in families with an income of $2,100 to $2,500 was $117. Charging again one-sixth of this against each child, gives, for eighteen years, a total of $351.

There is one item of family expenditure which does not come

directly out of the annual budget, namely, the first cost of the home as initially equipped (unless, indeed, the home is furnished on the instalment plan). Assuming that $750 is spent in equipping the original four-room apartment, and that the material thus put in is good, on an average, for fifteen years, this makes an annual amount of $50, or in round numbers, $8 chargeable against each child. In eighteen years this amounts to $144.

Gathering together our figures, we are left with the following results: In the course of eighteen years from birth, the amounts spent, for clothing and shelter, upon the growing child are as follows: For a boy, clothing, $912; rent, $1,620; fuel and light, $300; furniture and household maintenance, $351; first cost of installation of home, $144. Total $3,327. For a girl, the figures are the same except as regards the item of clothing, which is $1,002. The total is, accordingly, $3,417.

In our previous instalments we found for the cost of being born $250, and the cost of food, to age eighteen, $2,500. Adding to these the cost of shelter and clothing, namely, $3,400, we have, for all items considered so far, $6,150. There remains to be considered, in forthcoming issues, the expenditures for health, recreation, and sundries, and for education. All these are items on the debit side of the account; in the formative period of life the individual is, from the standpoint of production, a negative quantity. But he is accumulating energy and value which he will release later. The credit side of the account begins when the adolescent enters the ranks of the producers, the wage earners. The study of this productive period, in its relation to the value of human life, will be our task, after we have disposed of the negative items of the account characteristic of the early years, to age eighteen.

INFLUENZA IN 1926

Influenza, thus far this year, has by all accounts been very prevalent and a source of serious disability and absence from school and work. The form of the disease, however, has not been generally virulent. This is best indicated by the mortality experience among the seventeen million Industrial policyholders of the Metropolitan. While the deathrates for both influenza and pneumonia have run higher, so far this year, than last year, the mortality figure for neither disease is unusually high as compared with other recent years.

This Company has tabulated the deaths of its Industrial policyholders from these diseases up to, and including, the week ending March 20th. At that time, the cumulative or year-to-date deathrate

from influenza was 40.2 per 100,000, as compared with 34.4 for the same period of 1925. For pneumonia, the cumulative rate was 150.9 as compared with 138.1 in 1925. Furthermore, the deathrate from all causes for the week ending March 27th was unusually high and there is a strong presumption that deaths from influenza and pneumonia played an important part, although they have not been tabulated at the time this BULLETIN goes to press.

Among the Metropolitan policyholders, the highest deathrates from influenza and pneumonia, so far in 1926, have been observed in the Southern and "border" States. The deathrate among the South Carolina policyholders (337.8 per 100,000) was higher than in any other state and was followed by 335.4 in Alabama; 321.2 in Arkansas; 289.8 in Maryland; 271.8 in Louisiana; 265.3 in Georgia; 260.3 in Tennessee; 255.7 in Pennsylvania; 254.5 in Virginia; 248.6 in Florida, and 248.0 in Mississippi. The influenza-pneumonia deathrate for the entire Metropolitan Industrial Department, up to March 13th, was 185.3 per 100,000; and, in addition to the States just mentioned, the following recorded mortality from these diseases in excess of this average—Delaware, District of Columbia, Kentucky, New Hampshire, New Jersey, New York, North Carolina and Oklahoma. The deathrate among the Canadian policyholders was 125.3 per 100,000, which is much lower than that recorded in the United States.

There is conclusive evidence that the present outbreak is not a major one as measured by the epidemics of other years. Usually when influenza reaches very serious epidemic prevalence, the rise in the deathrate from this disease, and from pneumonia, is accompanied by increases in the mortality from the chronic degenerative diseases, such as apoplexy, organic heart disease, and nephritis. Furthermore, there is practically sure to be a sharp rise in the deathrate among women from puerperal diseases. Nothing of this kind has been observed so far in 1926. The rates for the degenerative conditions are substantially the same as at this time in 1925 and the mortality from puerperal diseases actually shows a decline as compared with last year.

SMALLPOX IN AMERICAN STATES AND CANADIAN PROVINCES, 1925

Although fewer cases of, and deaths from smallpox were reported in 1925 than in 1924, in both the United States and Canada, the disease was even more virulent in the United States than during the preceding year, and nearly four times as virulent as in 1923. This is

shown by the case-fatality rate in 1925 which was 1.89 deaths per 100 cases in 44 American States, as compared with 1.71 in 1924 and only .52 in 1923. In 43 States and the District of Columbia for which we were able to secure comparable data for the three years, 36,937 cases were reported in 1925; 51,579 in 1924 and 28,343 in 1923. The following table shows the facts for 43 States, the District of Columbia, and for eight Canadian provinces:

Cases, Deaths and Deaths per 100 Cases from Smallpox. Certain American States and Canadian Provinces, 1925, 1924, 1923

AREA	1925			1924			1923		
	Cases	Deaths	Deaths per 100 Cases	Cases	Deaths	Deaths per 100 Cases	Cases	Deaths	Deaths per 100 Cases
U. S. and Canada	38,166	710	1.86	54,387	945	1.74	29,724	153	.51
U. S. (43 States and Dist. of Col.)	36,937	699	1.89	51,579	883	1.71	28,343	146	.52
Canada: (8 Provinces)	1,229	11	.90	2,808	62	2.21	1,381	7	.51

The smallpox case-prevalence and case-fatality records of recent years teach their own lesson, which is that a single encouraging record, such as that for 1923, with a relatively low case-fatality rate, must not be allowed to lull us into a false sense of security. This favorable 1923 record was followed, the very next year, by a nearly 100 per cent. increase in the number of persons attacked by smallpox! And by a six-fold increase in the actual number of deaths, accompanied by a more than 200 per cent. rise in virulence, as reflected by the case-fatality rate! And two years after the very favorable record of 1923 we find the virulence of smallpox still increasing! Furthermore, the reports which have reached us for the early months of 1926 are by no means encouraging. Smallpox increased in January, especially in North Carolina, Michigan, Iowa and California. From Los Angeles came the report that the cases under observation were about 20 per cent. more virulent than those encountered during the preceding four years. Between January 2d and February 20th, as noted on another page of this BULLETIN, 964 cases were reported in California with 86 deaths. This is equivalent to the high case-fatality rate of 8.9 deaths per 100 cases.

As in 1924, the largest number of cases (4,921) was reported from California. Next followed Alabama with 4,285, Ohio with 4,018, Indiana with 2,996; Washington with 2,004, and North Carolina with 1,920. The respective case-fatality rates in these States were 1.18, .44, .97, .17, .20 and .42. Inspection of the table below shows very definitely that the disease was not the most virulent in the States where it was the most prevalent. In the District of Columbia, for example, where the maximum case-fatality rate was reported (33.9) there were only 59 cases, but 20 deaths. New Jersey reported 189 cases, 48 deaths, and a case-fatality rate of 25.4. Other instances in which the disease was outstandingly virulent in 1925 were Minnesota, Pennsylvania, Wisconsin and Iowa.

Smallpox Cases and Deaths in Selected States and Provinces, 1925

AREA	Cases	Deaths	Deaths per 100 Cases	AREA	Cases	Deaths	Deaths per 100 Cases
UNITED STATES: (43 States and Dist. of Col.)	36,937	699	1.89	UNITED STATES: —*Continued*			
SELECTED STATES				SELECTED STATES —*Continued*			
Alabama	4,285	19	.44	North Carolina	1,920	8	.42
Arizona	117	1	.85	North Dakota	204	7	3.43
California	4,921	58	1.18	Ohio	4,018	39	.97
Colorado	19	0	—	Oklahoma	775	2	.26
Connecticut	4	1	25.00	Oregon	859	2	.23
Delaware	9	0	—	Pennsylvania	205	30	14.63
Dist. of Columbia	59	20	33.90	Rhode Island	94	0	—
Florida	207	0	—	South Carolina	915	4	.44
Georgia	444	10	2.25	South Dakota	265	0	—
Idaho	526	2	.38	Texas	1,309	2	.15
Illinois	1,625	22	1.35	Vermont	0	0	0
Indiana	2,996	5	.17	Virginia	268	3	1.12
Iowa	664	41	6.17	Washington	2,004	4	.20
Kansas	311	1	.32	West Virginia	821	2	.24
Kentucky	1,040	5	.48	Wisconsin	1,517	131	8.64
Louisiana	883	8	.91	Wyoming	70	0	—
Maine	1	0	—				
Maryland	16	0	—				
Massachusetts	3	0	—	CANADA	1,229	11	.90
Michigan	784	22	2.81	*Provinces*			
Minnesota	973	198	20.35	Alberta	89	0	—
Montana	376	0	—	British Columbia	674	2	.30
Nebraska	831	0	—	Manitoba	173	3	1.73
Nevada	97	2	2.06	New Brunswick	3	0	—
New Hampshire	1	0	—	Nova Scotia	0	0	—
New Jersey	189	48	25.40	Ontario	218	4	1.83
New Mexico	26	0	—	Quebec	10	1	10.00
New York	286	2	.70	Saskatchewan	62	1	1.61

The lesson these figures teach is that there exists in the present-day smallpox situation in this country no basis for optimism. We shall continue to suffer outbreaks of this loathsome and fatal disease, until that time when we shall have systematic vaccination of children and systematic re-vaccination of adults. Here lies the only known safeguard against death and permanent disfigurement from smallpox. And we shall, in all probability, continue to see the disease break out in its most deadly form just subsequent to periods when we have taken false comfort from a temporary decrease in its general prevalence or in its case-fatality rate.

Every year the obligation of National, State, and municipal public health officials to disseminate the truth about smallpox becomes more urgent. There must be no let-up, but rather accentuation, in the vehemence of their warnings and in the vigor of their efforts to counteract the false teachings of those who are opposing vaccination the only effective remedy to reduce the number of susceptibles.

Just so long as the American population provides tinder for smallpox outbreaks, just that long may we expect to suffer outbreaks of the disease.

EXPECTATION OF LIFE IN THE STATE OF MASSACHUSETTS, 1924

The State of Massachusetts enjoys the distinction of having been the first State in the Union for which a life table was constructed. The earliest Massachusetts table relates to the mortality in the year 1855. We now present the latest data on the expectation of life for that State, computed according to the mortality in the year 1924. For comparison the figures for the whole of the Registration States* in 1924 are also shown. It will be seen that for males the two life tables run very closely parallel. For females, the Massachusetts table shows an advantage of about one-half year in the expectation of life at birth, thereby passing by a narrow margin beyond the sixty-year mark. We may congratulate the State of Massachusetts in having achieved a a mean length of life of over three-score years for its women. It is a fine record. The mean length of life for the population as a whole has risen from 39.77 in 1855 to 58.32 in 1924, a gain of 18.55 years. The present inhabitant of Massachusetts may look to a period of existence almost half as long again as conditions in 1855 would have warranted him to expect.

*As constituted in 1920.

Expectation of Life in United States Registration States and in Massachusetts, 1924

AGE	U. S. REGISTRATION STATES			MASSACHUSETTS, 1924		
	MALES	FEMALES	PERSONS	MALES	FEMALES	PERSONS
0	56.74	59.59	58.10	56.67	60.09	58.32
7	56.26	58.07	57.12	56.40	58.76	57.60
12	51.78	53.50	52.59	51.98	54.26	53.14
17	47.42	49.07	48.20	47.50	49.74	48.64
22	43.36	45.00	44.13	43.24	45.39	44.34
32	35.24	36.90	36.02	34.68	36.92	35.82
42	27.32	28.84	28.03	26.51	28.59	27.58
52	19.85	21.18	20.48	18.87	20.74	19.84
62	13.26	14.27	13.75	12.52	13.94	13.27
72	8.18	8.87	8.53	7.83	8.79	8.36
82	4.70	5.01	4.88	4.67	5.04	4.89
92	2.76	2.70	2.73	2.56	2.66	2.58

HEALTH RECORD FOR FEBRUARY, 1926

The deathrate in the industrial population of the United States and Canada in February (9.8 per 1,000) was identical with that reported for January. It was somewhat lower than the February figure of a year ago.

With the exception of measles, influenza and automobile accidents, the February health record is favorable.

The mortality from measles is running exceptionally high; and furthermore, the rise in the deathrate during January and February was sharp. The first sign of increasing mortality from this disease was observed in December last, when the deathrate rose to 4.3 per 100,000 as compared with 1.7 in November. Then followed increases to rates of 9.5 in January and 13.0 in February.

Such high mortality, coupled with the abrupt rise in the deathrate, emphasizes the dangers, too little realized, of this very contagious disease of childhood. There is liability to infection, for that matter, in all persons, regardless of age, unless protected by a previous attack. During a period of general prevalence of measles, such as now prevails, it should be borne in mind that any child who appears to have a cold with a little fever, may be in that early stage of measles when he is most likely to spread infection. It is indeed vital at this time to keep indoors and away from other children any child who displays these symptoms.

Measles is one of the most insidious and treacherous diseases, in that possibly its most dangerous period is that of *recovery* from the

disease itself. It is then that the dreaded complication of pneumonia is most apt to develop, that the kidneys may be affected, and not infrequently, the eyes and ears may become involved with grave danger of ultimate impairment, or even loss of sight or hearing.

The deathrate from this disease runs, to some extent, in cycles. In 1924 and 1925 the rate was low; but 1923 was a "measles year." This was preceded, in turn, by relatively low deathrates in 1922 and 1921, following another high rate in 1920. The records for long periods of years show that, usually, every third or fourth year the measles mortality is very much in excess of the average.

While the influenza rate rose 37 per cent. over the January figure, and was 11 per cent. above that for February a year ago, there was, during February, no increase from pneumonia. More detailed comment on the current influenza situation, based on reports received up to March 20th, will be found on page 3.

Automobile fatalities, as in January, greatly exceeded those of the same month of 1925. This year bids fair to mark another extension of the long series of continuous increases in the deathrate from this cause.

The general deathrate for the larger cities of the United States, in February, was 15.6, which is higher than for the previous month and for February a year ago. As compared with January, more cases of influenza, malaria, measles, poliomyelitis, scarlet fever, smallpox and whooping cough were reported with declines for diphtheria and typhoid fever. Comparison with February, 1925 shows increased prevalence of influenza, measles, poliomyelitis, scarlet fever and whooping cough, with less diphtheria, malaria, smallpox and typhoid fever.

The influenza situation is the outstanding item in the health record of the month. With few exceptions, the states showed large increases as compared with January. Alabama, Arkansas, Georgia, Louisiana, Maryland, Oregon, Texas and Oklahoma are states reporting the greatest prevalence of this disease. In Alabama, case reports increased to 3,582 in February from 612 during the first four weeks of January. In Louisiana, the February figure was 2,087 cases as compared with 155 in January; corresponding figures for Texas were 3,503 and 180. Press reports state that 128 persons had died from influenza and its complications, in Birmingham, Alabama, between January 1st and February 20th; that Atlanta's deathrate had increased markedly on account of mortality from influenza and pneumonia; that in Berlin, Maryland, with a population of only 1,366, 150 cases of influenza were reported in the ten days previous to March 3d; that

the disease has attacked at least four sections of New York State. In Binghamton, New York, about 2,000 students and 80 teachers were absent from the schools, and industrial plants were much handicapped. In Rochester, an outbreak of "colds" and influenza caused a greater percentage of absences from schools, stores and industrial plants than has been experienced in the city for years. More than 250 persons were reported ill from influenza in Dallas, Texas, on February 16th.

Increased prevalence of smallpox is shown by reports received during February. In California, for example, case reports increased from 387 for the first four weeks of January to 634 in February; for Texas, the corresponding figures were 93 and 322. The California State Board of Health reported that the type of smallpox present in that State is severe in contrast to the mild variety that has been prevalent for several years. From January 2d to February 20th, 964 cases occurred with 86 deaths. Practically all parts of Florida have recently reported cases of smallpox. The State and local health authorities were very active in informing the people of the need for vaccination, although this met opposition in some sections of the State on account of fear of the resulting publicity. Case reports in Florida numbered 558 for February as compared with 322 in January, and 65 in December. In Boise, Idaho, the cooperation of physicians and school authorities appears to have broken up what, for a time, threatened to become a smallpox epidemic. The Health Commissioner of Evanston, Illinois, issued a warning that the community was threatened with an epidemic; and in the University of Illinois, all students and professors who had not had smallpox or been recently vaccinated were barred from classrooms for twenty days. Reports of the presence of the disease have also been received from Council Bluffs, Iowa, and Toledo, Ohio. In Boardman, a small place in Oregon, it became necessary to close the schools.

Fewer cases of diphtheria were reported in February; but the prevalence of scarlet fever increased slightly in most States, and rather noticeably in Illinois and South Dakota. Representatives of various state departments and state-wide health organizations of New York held a conference at Albany, February 2d, to consider plans for ridding the State of diphtheria within the next five years.

The following table shows the mortality among Industrial policyholders for February, 1926; January, 1926; February, 1925, and the year 1925.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates* per 100,000 for Principal Causes, Premium-paying Business in Industrial Department (Annual Basis)

MONTHS OF JANUARY, 1926; FEBRUARY, 1926, AND OF FEBRUARY, 1925

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED*			
	Feb., 1926	Jan., 1926	Feb., 1925	Year 1925†
TOTAL—ALL CAUSES	982.7	981.2	1027.0	906.9
Typhoid fever	2.6	3.9	2.6	4.6
Measles	13.0	9.5	2.1	3.3
Scarlet fever	4.6	4.0	4.2	3.5
Whooping cough	7.4	6.6	7.0	7.7
Diphtheria	9.6	11.2	11.8	10.6
Influenza	37.0	27.1	33.3	21.9
Tuberculosis (all forms)	98.3	91.0	105.1	98.0
Tuberculosis of resp'y system	87.3	81.4	93.9	85.8
Cancer	69.1	69.7	72.0	70.5
Diabetes mellitus	15.8	17.6	17.0	15.2
Cerebral hemorrhage	59.6	60.0	62.3	53.5
Organic diseases of heart	144.2	147.0	148.0	126.6
Pneumonia (all forms)	137.6	138.0	139.7	86.5
Other respiratory diseases	15.9	15.9	18.1	13.3
Diarrhea and enteritis	15.0	17.0	19.4	36.6
Bright's disease (chronic nephritis)	78.8	74.8	84.6	69.8
Puerperal state	14.5	14.3	18.7	16.5
Suicides	5.6	7.5	7.3	6.9
Homicides	4.9	7.2	6.1	7.2
Other external causes (excluding suicides and homicides)	52.4	59.2	56.4	64.2
Traumatism by automobiles	11.2	13.6	8.2	16.5
All other causes	196.8	199.6	210.9	190.5

*All figures include infants insured under one year of age.
†Based on provisional estimate of lives exposed to risk in 1925.

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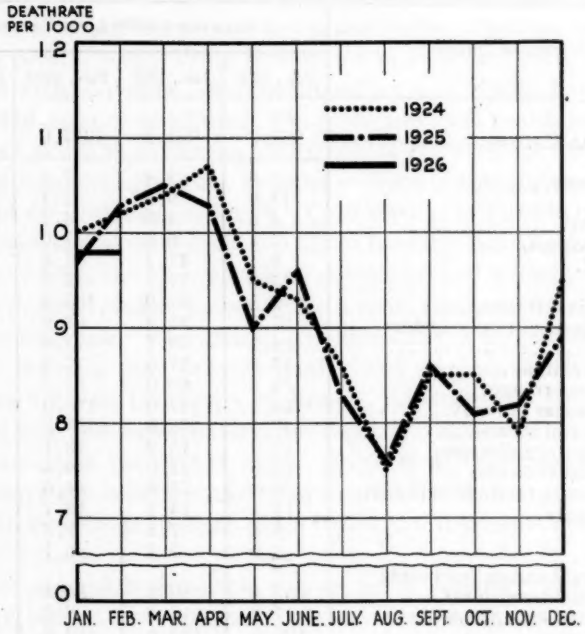
DEATHRATE PER 1000
in SPECIFIED MONTHS of
1924, 1925, 1926

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT
(ANNUAL BASIS)



	1924	1925	1926		1924	1925	1926
JAN.	10.0	9.7	9.8	JULY	8.6	8.3	
FEB.	10.2	10.3	9.8	AUG.	7.5	7.6	
MAR.	10.4	10.5		SEPT.	8.5	8.6	
APR.	10.7	10.3		OCT.	8.5	8.1	
MAY	9.5	9.0		NOV.	7.9	8.2	
JUNE	9.3	9.6		DEC.	9.5	8.9	

NOTE: Figures include mortality of infants under one year of age.

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